



October 10, 2016

North Carolina Department of Environmental Quality
Division of Waste Management, Superfund Section, Inactive Hazardous Sites Branch
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Attention: Mr. Qu Qi

Sent via email to: qu.qi@ncdenr.gov

Reference: **Crawlspace and Indoor Vapor Sampling**
Chemical and Solvents, Inc. Site
Greensboro, North Carolina
Site ID NONCD0000044
S&ME Project No. 4305-15-215

Dear Mr. Qi:

S&ME, Inc. (S&ME) is submitting this Crawlspace and Indoor Vapor Sampling Report for assessment activities conducted at six residential properties located at 2836 Camborne Street, 2834 Camborne Street, 2832 Camborne Street, 2841 Camborne Street, 2837 Camborne Street, and 2835 Camborne Street in Greensboro, Guilford County, North Carolina (see **Figure 1, Attachment I**). Our services were performed in general accordance with S&ME's approved Sampling and Analysis Plan (SAP)/Fee Proposal (S&ME Proposal No. 43-1500939 (CO-1)) dated April 12, 2016 and Cost Adjustment Proposal (S&ME Proposal No. 43-1500939 (CO-2)) dated July 5, 2016. All services were conducted under the terms and conditions of Contract #N14009i, dated September 26, 2014. This report presents the purpose for the sampling event, the methods used to collect vapor samples, the results of the laboratory analyses, and the conclusions based on the results of the analyses.

❖ Project Background and Purpose

The Chemical and Solvents, Inc. site is located in Greensboro, Guilford County, North Carolina. The area of concern is along Immanuel Road, which parallels Patterson Street, Camborne Street, Swan Street, and Belmar Street, which are all in close proximity to Patterson Street. Various industrial facilities currently and historically operated along Patterson Street. There are four IHSB sites and three Resource Conservation and Recovery Act sites along Patterson Street. These sites have or are suspected to have chlorinated solvent releases. The groundwater from these sites flows in a generally southerly direction, toward a residential area. The purpose of this site investigation is to address potential vapor intrusion risk in this area, and to assess groundwater condition. A vicinity map is included as **Figure 1**.

An environmental assessment of the area conducted by S&ME in February 2016 identified the presence of chlorinated hydrocarbon compounds in groundwater and in soil gas samples at concentrations greater than North Carolina's groundwater quality standards and NCDEQ screening levels for vapor intrusion. Based on the assessment results, IHSB requested that S&ME obtain owner access authorization and collect a crawl space sample or indoor vapor sample (if no crawlspace existed) from the residences located

at 2836 Camborne Street, 2834 Camborne Street, 2832 Camborne Street, 2841 Camborne Street, 2839 Camborne Street, 2837 Camborne Street, and 2835 Camborne Street. These addresses are near the location of temporary monitor well TMW-4 and soil gas sample SG-4 where chlorinated hydrocarbon compounds were reported in both groundwater and soil gas samples (ref: Soil Gas and Groundwater Assessment report by S&ME, Inc., dated May 11, 2016). A site map of the area is included as **Figure 2**.

❖ Scope of Services

In accordance with the IHSB request and the approved SAP, S&ME collected five crawl space vapor samples and two indoor vapor samples to assess for potential vapor intrusion into six residential structures located at 2836 Camborne Street, 2834 Camborne Street, 2832 Camborne Street, 2841 Camborne Street, 2837 Camborne Street, and 2835 Camborne Street. A vapor sample was proposed to be collected at 2839 Camborne Street. However, access was not granted for this property, so a vapor sample was not collected. This report presents the field methods of the assessment conducted, the laboratory analytical results of the vapor samples that were collected, comparison of laboratory results to applicable screening levels, and conclusions.

❖ Methods

Crawlspace and Indoor Vapor Sampling

Prior to the crawlspace and indoor vapor sampling event, S&ME conducted site reconnaissance on May 4, and June 16, 2016 to gain written owner authorizations to collect vapor samples, determine the presence of crawlspaces for sampling, identify issues or background sources of VOCs that could impact sampling results, complete NCDEQ's "Indoor Air Building Survey and Sampling Form", and request occupants' cooperation to prepare their domiciles for vapor sampling (i.e., eliminate sources of background VOCs). Property information is included in **Table 1 (Attachment II)**. Verbal permission was granted by the property owner of the three duplexes located at 2832, 2834, and 2836 Camborne Street, however written permission has not been received at this time. For owners or occupants that did provide written permission, the signed Property Access and Sampling Permission forms are included in **Attachment III**. Building surveys are included in **Attachment IV**. A photograph log is included in **Attachment V**.

On June 20 and 21, 2016, S&ME personnel conducted crawlspace vapor sampling at 2832, 2834, 2836, and 2837 Camborne Street, and conducted indoor vapor sampling (due to lack of crawlspaces) at 2835 and 2841 Camborne Street (**Figure 2**). The crawlspace vapor samples were collected by placing a 6-liter individually-certified summa canister in a central location of the structure's crawlspace or by placing the canister near the crawlspace entrance and running Teflon tubing attached to the canister to a central location using a tubing stand. The tubing stand was constructed using stainless steel screws to hold PVC parts together. No glues or solvents were used in the construction of the tubing stand. Crawl space samples were designated with a CS- prefix to the sample number, and the indoor air vapor samples were designated with an IA- prefix to the sample number.

The tubing stand was placed into position using an extendable pole. For indoor vapor sample collection, summa canisters were placed on tables in central living areas (living rooms). Each summa canister was fitted with a laboratory-set regulator to collect the vapor samples over a period of twenty-four hours. A

photograph log is included in **Attachment V**. The field sampling forms and field notes are included in **Attachment VI**.

After the samples were collected, the summa canisters were shipped under standard chain-of-custody protocol to ESC Lab Sciences of Mt. Juliet, Tennessee, a North Carolina Certified laboratory, for analysis. All samples were analyzed for 1,1- Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, 1,1,1-Trichloroethane, and 1,1,2-Trichloroethane via EPA Method TO-15SIM. A copy of the chain of custody is included in **Attachment VII**.

Quality Assurance/Quality Control

For Quality Assurance/Quality Control (QA/QC) purposes, one duplicate vapor sample (CS-DUP) of crawlspace sample CS-1 was collected and one ambient (upwind) sample (AMBIENT) was collected at 2837 Camborne Street.

❖ Results

Vapor Sampling Results

Indoor Vapor

The indoor vapor sample IA-1 had a reported trichloroethene concentrations of 0.827 micrograms per cubic meter (ug/m³), which is greater than the Division of Waste Management (DWM) Residential Indoor Air and Crawlspace Screening Level (IASL) of 0.417 ug/m³ for trichloroethene.

Crawlspace Vapor

Crawlspace vapor sample CS-1 and the duplicate sample of CS-1 (CS-DUP) had reported 1,2-dichloroethane concentrations of 1.47 and 1.44 ug/m³, respectively, which are greater than IASL for that compound.

The crawlspace vapor sample CS-3 had a reported trichloroethene concentrations of 1.74 ug/m³, which is greater than the IASL of 0.417 ug/m³ for trichloroethene.

The crawlspace vapor sample CS-4 had reported detections of 1,1- dichloroethane (57.4 ug/m³), tetrachloroethene (41.3 ug/m³), and trichloroethene (20.1 ug/m³), at concentrations greater than their IASLs of 41.7, 8.34, and 0.417 ug/m³, respectively. Analytical results are presented in **Table 2** and summarized on **Figure 2**. A copy of the laboratory analytical report and chain-of-custody is provided in **Attachment VII**.

Quality Assurance/Quality Control Results

Analytical results of the duplicate sample (CS-DUP) agreed well with the record sample (CS-1) results. The background vapor sample (AMBIENT) had reported detections of 1,1- dichloroethane, tetrachloroethene, 1,1,1-Trichloroethane, and trichloroethene at concentrations less than the IASLs. The laboratory's Quality Control Summary identified the presence of tetrachloroethylene in the laboratory's Method Blank at an estimated (J-Qualified) concentration of 0.00518 part per billion volume (ppbv), which is equivalent to 0.03514 µg/m³. This concentration is an estimated value reported to the statistically derived Method Detection Limit, which in comparison to the Method Reporting Limit. The laboratory's other other quality

control samples, such as the Laboratory Control Sample and Laboratory Control Sample Duplicate indicate a high level of accuracy and precision. Thus, the quality and accuracy of the sample results are accepted as reliable for the level of QA/QC reporting by the laboratory.

❖ Conclusions

S&ME completed a sampling program for the collection of vapor samples from both indoor air and from crawl spaces in an area where groundwater and soil gas samples had reported concentrations greater than the North Carolina groundwater quality standards and NCDEQ's Vapor Intrusion Soil Gas Screening Levels, respectively (S&ME's May 11, 2016 assessment report). The analytical results show that chlorinated aliphatic hydrocarbon (CAH) concentrations in indoor air and crawl space samples collected at 2841, 2837, 2834 and 2832 Camborne Street are greater than the NCDEQ's IASLs.

During field sampling, potential sources of targeted vapors may have been present in the sampled crawl spaces. However, the composition of CAHs in groundwater and soil gas samples as reported in S&ME's May 11, 2016, assessment report were comparable in composition to the reported CAHs presented in this assessment report. Though variability exists in the number and concentrations of reported CAHs from sample to sample reported herein, the composition of CAHs among the indoor air quality vapor samples and crawlspace vapor samples shows some similarities. In addition, the results do not show drastic differences in composition of reported CAHs. Thus, there is insufficient evidence that stored materials in the crawl spaces and inside the residences influenced the sample results.

The results presented herein represent a single sampling event and may differ in concentrations of CAHs over time as many environmental variables can influence air quality sampling results.

❖ Closing

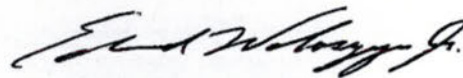
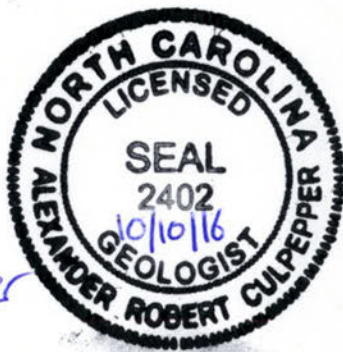
If you have questions regarding this report or require additional information, please feel free to contact us at (919) 872-2660.

Sincerely,

S&ME, Inc.



Alexander R. Culpepper, P.G.
Project Geologist



Edmund Woloszyn, R.E.M.
Principal Scientist / Project Manager

Attachments:

- Attachment I - Figures
- Attachment II - Tables
- Attachment III - Owner Permission Forms



Attachment IV – Building Surveys

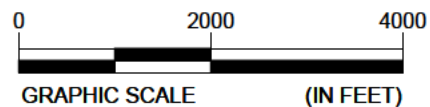
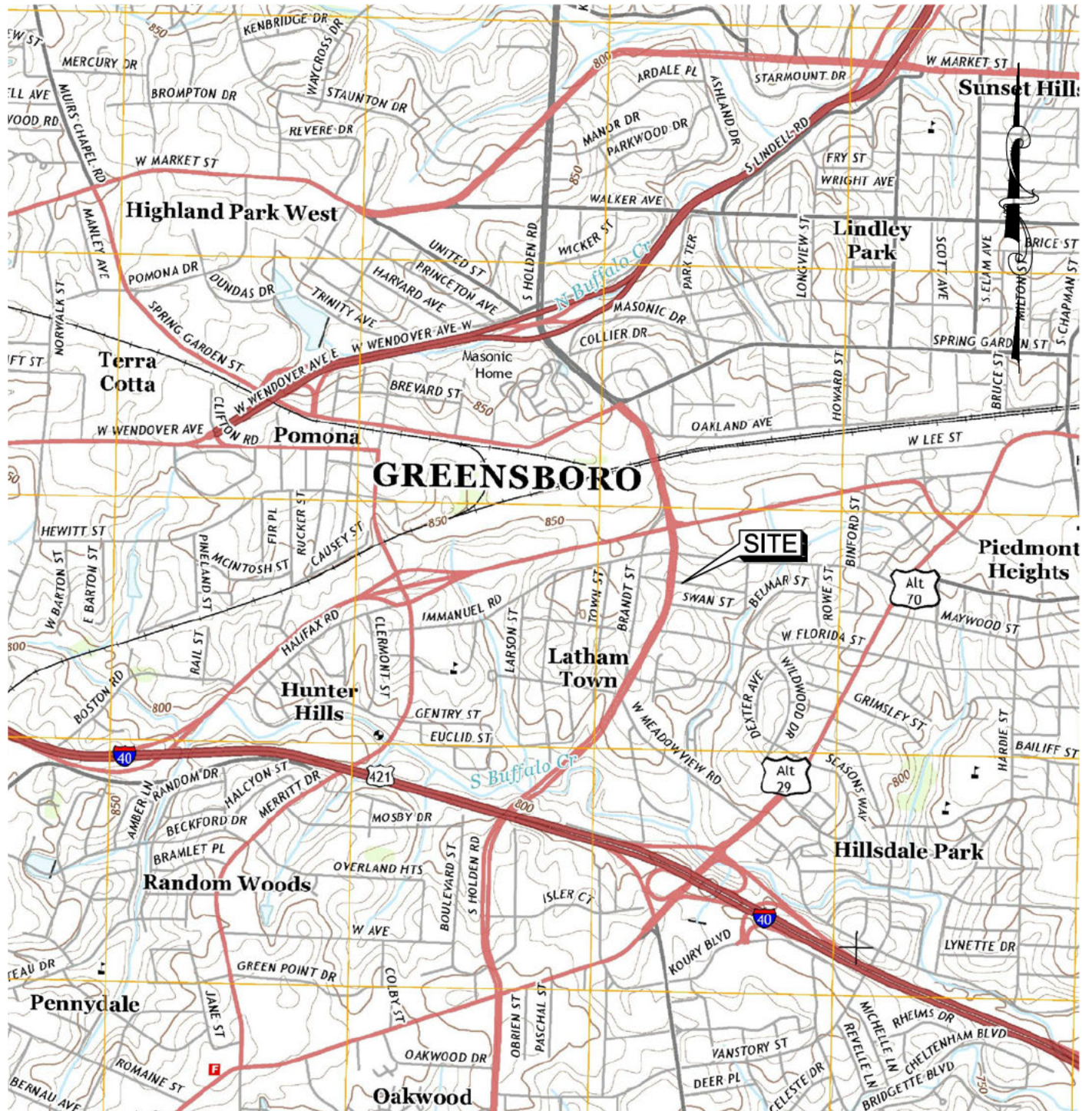
Attachment V – Photograph Log

Attachment VI – Field Notes

Attachment VII – Laboratory Report and Chain of Custody

Attachments

Attachment I - Figures



TOPO SOURCE: USGS
GREENSBORO, DATED 2013
CONTOUR INTERVAL 10 FEET

SCALE: 1" = 2000'

DATE: SEPT 2016

DRAWN BY: BTR

PROJECT NO:
4305-15-215



S&ME

WWW.SMEINC.COM

NC ENGINEER LICENSE #F-0176
3201 SPRING FOREST RD, RALEIGH, NC 27616

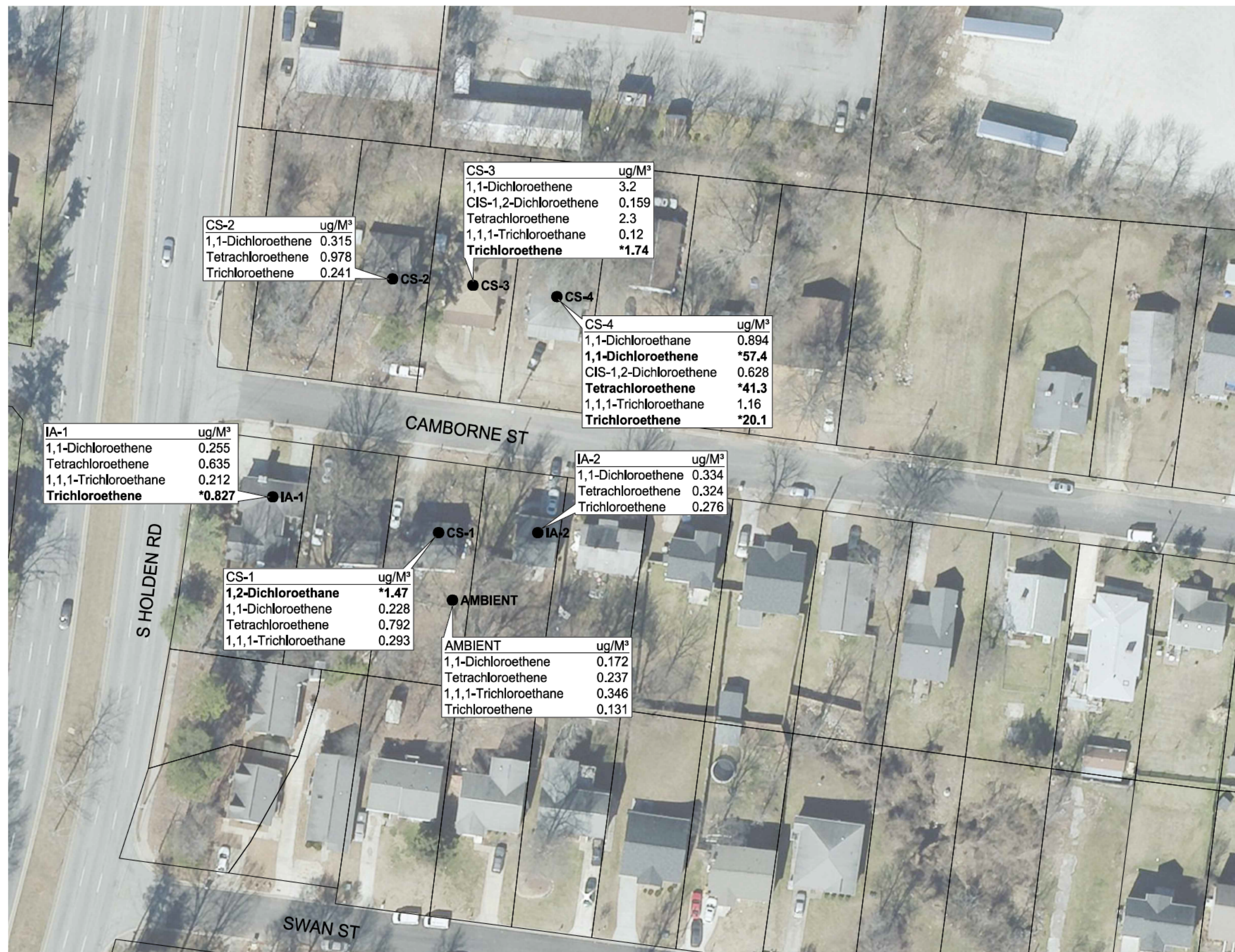
VICINITY MAP

CHEMICAL AND SOLVENTS, INC. SITE NONCD0000044
GREENSBORO, NORTH CAROLINA

A-6036

FIGURE NO.

1



<u>SAMPLE</u>	<u>ADDRESS</u>
IA-1	2841 Camborne Street
IA-2	2835 Camborne Street
CS-1	2837 Camborne Street
AMBIENT	2837 Camborne Street
CS-2	2836 Camborne Street
CS-3	2834 Camborne Street
CS-4	2832 Camborne Street

NC ENGINEER LICENSE #F-0176
3201 SPRING FOREST RD, RALEIGH, NC 27616

CHEMICAL AND SOLVENTS, INC. SITE - NONCD0000044
GREENSBORO, NORTH CAROLINA

1

Attachment II – Tables

TABLE 1
Property Information
Chemical and Solvents, Inc. Site
Greensboro, Guilford County, North Carolina
Site ID No. (NONCD0000044)
S&ME Project No. 4305-15-215

Property Address	Property Description	Owner Name	Owner Address
2836 Camborne Street Greensboro, NC 27407	Residence	(b) (6)	65 Garden Creek Lane, Newnan, GA 30263
2834 Camborne Street Greensboro, NC 27407			
2832 Camborne Street Greensboro, NC 27407			
2841 Camborne Street Greensboro, NC 27407	Residence	(b) (6)	2841 Camborne Street Greensboro, NC 27407
2839 Camborne Street Greensboro, NC 27407	Residence	(b) (6)	2839 Camborne Street Greensboro, NC 27407
2837 Camborne Street Greensboro, NC 27407	Residence	(b) (6)	2004 Martlet Street Greensboro, NC 27403
2835 Camborne Street Greensboro, NC 27407	Residence	E & P Property Holdings, LLC	1206 E Wendover Ave. Greensboro, NC 27405

Notes:

Refer to **Figure 2**.

TABLE 2
Vapor Sampling Analytical Results
Chemical and Solvents, Inc. Site
Greensboro, Guilford County, North Carolina
Site ID No. (NONCD0000044)
S&ME Project No. 4305-15-215

Analyte				Volatile Organic Compounds by Method TO-15SIM (ug/m3)							
				1,2-Dichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	CIS-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Sample ID	Sample Type	Address	Date Collected								
IA-1	Indoor	2841 Camborne Street	6/21/16	ND	ND	0.255	ND	0.635	0.212	ND	0.827
IA-2	Indoor	2835 Camborne Street	6/21/16	ND	ND	0.334	ND	0.324 B	ND	ND	0.276
CS-1	Crawlspace	2837 Camborne Street	6/21/16	1.47	ND	0.228	ND	0.792	0.293	ND	ND
CS-DUP (CS-1)	Crawlspace	2837 Camborne Street	6/21/16	1.44	ND	0.254	ND	0.873	0.309	ND	ND
AMBIENT	Ambient	2837 Camborne Street	6/21/16	ND	ND	0.172	ND	0.237 B	0.346	ND	0.131
CS-2	Crawlspace	2836 Camborne Street	6/21/16	ND	ND	0.315	ND	0.978	ND	ND	0.241
CS-3	Crawlspace	2834 Camborne Street	6/21/16	ND	ND	3.2	0.159	2.3	0.12	ND	1.74
CS-4	Crawlspace	2832 Camborne Street	6/21/16	ND	0.894	57.4	0.628	41.3	1.16	ND	20.1
Residential Indoor Air and Crawlspace Screening Levels				0.108	1.75	41.7	NE	8.34	1,040	0.0417	0.417

Notes:

ug/m3: micrograms per cubic meter

Residential Indoor Air and Crawlspace Screening Levels (IASLs), Division of Waste Management (DWM) (March, 2016).

Constituents in **Bold** were reported at concentrations above the DWM Residential IASLs.

NE: IASL not established for constituent.

B: The same analyte is found in the associated laboratory method blank.

Attachment III – Owner Permission Forms



4

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

LINDA CULPEPPER
Director

PROPERTY ACCESS & SAMPLING PERMISSION

I am the owner of the property located at 2841 Camberne Street. I grant the Division of Waste Management and/or its contractors permission to access my property and collect samples as indicated below from my property.

___ Potable Well. Does your well have a treatment system (Yes/No)? _____
How many wells are located on your property? _____

___ Soil (Surface Grab Sample)

___ Soil Gas Probes

(b) (6)

___ Groundwater (Installation of monitoring wells)

IF YOU HAVE ANY QUESTIONS PLEASE
CALL 919-872-2660 AND ASK TO SPEAK
WITH JASON VOLKOR.

___ Crawlspace Vapor Sampling

☒ Indoor Air Vapor Sampling

___ Other (Include Description) _____

(b) (6)

(Print Name)

(b) (6)

(Signature)

(b) (6)

(Telephone Number)

(Date)

Please return this signed form in the enclosed stamped envelope to:

(Qu Qi, LG)
Inactive Hazardous Sites Branch
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699

Patterson Street Sites
Greensboro, Guilford County



7

PAT MCCRORY
Governor

DONALD R. VAN DER VAART
Secretary

LINDA CULPEPPER
Director

PROPERTY ACCESS & SAMPLING PERMISSION

I am the owner of the property located at 2835 Camberne Street. I grant the Division of Waste Management and/or its contractors permission to access my property and collect samples as indicated below from my property.

- ☐ Potable Well. Does your well have a treatment system (Yes/No)? _____
How many wells are located on your property? _____
- ☐ Soil (Surface Grab Sample)
- ☐ Soil Gas Probes
- ☐ Groundwater (Installation of monitoring wells)
- ☐ Crawlspace Vapor Sampling
- ☒ Indoor Air Vapor Sampling
- ☐ Other (Include Description) _____

(b) (6)
(Print Name)
(b) (6)
(Signature)

(b) (6)
(Telephone Number)
6/17/16
(Date)

Please return this signed form in the enclosed stamped envelope to:

(Qu Qi, LG)
Inactive Hazardous Sites Branch
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699

Patterson Street Sites
Greensboro, Guilford County

Jason Laine Volker

From: ALERT OFFICE <alert@alerthomerepair.com>
Sent: Friday, June 17, 2016 1:12 PM
To: Jason Laine Volker
Subject: Re: DEQ permission for INDOOR AIR SAMPLING
Attachments: cambornesampling.pdf

Hi Jason,

I have attached the signed permission letter.

Thank you,

Kellie

On Fri, Jun 17, 2016 at 12:13 PM, Jason Laine Volker <JVolker@smeinc.com> wrote:

FYI, to be more specific, we'll be onsite Monday between about 9-10 am to leave the air sampler inside the residence. And pick it up Tuesday morning.

Thanks again,
Jason

From: Jason Laine Volker
Sent: Friday, June 17, 2016 12:06 PM
To: 'alert@alerthomerepair.com' <alert@alerthomerepair.com>

Subject: FW: DEQ permission for INDOOR AIR SAMPLING

Kelly,

You can mail the form to the DEQ contact as indicated, or just email me a scanned copy-

Thank you!

Jason

From: Jason Laine Volker
Sent: Friday, June 17, 2016 10:36 AM
To: 'ed@alerthomerepair.com' <ed@alerthomerepair.com>
Subject: FW: DEQ permission for INDOOR AIR SAMPLING

Ed, following up on my voicemail- please sign and return the attached permission form for conducting indoor air sampling at 2835 Camborne Street. (my email below indicated an email response would suffice however DEQ wants a hard copy of the form).

Also, please inform the tenant of your permission for us to leave our air sampler inside the house on Monday- we'll pick it up approximately 24 hours later.

Thanks a lot,

Jason

919-880-3137

From: Jason Laine Volker
Sent: Friday, June 17, 2016 9:11 AM
To: 'eregensburg@gmail.com' <eregensburg@gmail.com>
Subject: DEQ permission for INDOOR AIR SAMPLING

Ed,

NCDEQ wants to sample the air inside of the residence at 2835 Camborne Street (in lieu of crawlspace sampling) and needs permission allowing this. The form you previously signed was only for outdoor/soil vapor sampling.

The permission form is attached but your response to this email indicating yes or no will suffice-

We plan on collecting samples at your property and at the neighboring properties Monday-Tuesday. We would need to set the indoor sampler up Monday and pick it up approximately 24 hours later. We spoke with your tenant yesterday and she seemed agreeable if you agreed.

Please respond to this email if you agree, and we will coordinate with the tenant. We're aware she has a large dog inside that she'll have to help us with.

Thank you. Please call if you wish to discuss.

Jason

919-880-3137

Jason Volker, LSS

Project Scientist



ENGINEERING INTEGRITY.

S&ME, Inc.
3201 Spring Forest Road
Raleigh NC 27616 [Map](#)
Ph: 919-872-2660 Ext. 10297
Fax: 919-876-3958
Mobile: 919-880-3137

jvolker@smeinc.com
www.smeinc.com

This electronic message is subject to the terms of use set forth at www.smeinc.com/email. If you received this message in error please advise the sender by reply and delete this electronic message and any attachments. Please consider the environment before printing this email.

--

Kellie Moore
Production Manager
Alert Construction & Energy Solutions, Inc.

Attachment IV – Building Surveys

Scott & Carol Hawkins

NO ONE HOME, NO ACCESS
TO HOUSE. FORM LEFT IN
MAIL BOX

DWM INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Site Name: Chemical and Solvents Inc.
2841 CAMBORNE ST

DSCAID#: _____

Preparer's name: Jim DeGue / Jason Volker

Date: 6/16/16 6-20-16 6-21-16

Preparer's affiliation: SIME

Phone #: 919-880-3137

Part I - Occupants

Building Address: 2841 CAMBORNE

Property Contact: (b) (6)

Owner / Renter / other: _____

Contact's Phone: home (b) (6)

work (b) (6)

cell () _____

of Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults 2

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: Small single story house, wood frame Year constructed: 1995

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 1

Depth of basement below grade surface: _____ ft. Basement size: _____ ft²

Basement floor construction: concrete / dirt / floating / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify) BRICK

Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No

Type of heating system (circle all that apply):

hot air circulation

hot air radiation

wood

steam radiation

heat pump

hot water radiation

kerosene heater

electric baseboard

other (specify): GAS

Type of ventilation system (circle all that apply):

central air conditioning

mechanical fans

bathroom ventilation fans

individual air conditioning units

kitchen range hood fan

outside air intake

other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas

electric

fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes / No

Is there a whole house fan?

Yes / No

Septic system?

Yes / Yes (but not used) / No

Irrigation/private well?

Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. HOLDEN ROAD

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans	<u>NA</u>	<u>NA</u>
Gas-powered equipment	<u>↓</u>	<u>↓</u>
Kerosene storage cans	<u>↓</u>	<u>↓</u>
Paints / thinners / strippers	<u>↓</u>	<u>↓</u>
Cleaning solvents	<u>W1-40, Kitchen</u>	<u>no</u>
Oven cleaners	<u>NA</u>	<u>NA</u>
Carpet / upholstery cleaners	<u>↓</u>	<u>NA</u>
Other house cleaning products	<u>Kitchen</u>	<u>↓</u>
Moth balls	<u>NA</u>	<u>No</u>
Polishes / waxes	<u>NA</u>	<u>NA</u>
Insecticides	<u>NA</u>	<u>↓</u>
Furniture / floor polish	<u>NA</u>	<u>↓</u>
Nail polish / polish remover	<u>Bedroom</u>	<u>No</u>
Hairspray	<u>↓</u>	<u>↓</u>
Cologne / perfume	<u>Interior</u>	<u>↓</u>
Air fresheners	<u>NA</u>	<u>No</u>
Fuel tank (inside building)	<u>NA</u>	
Wood stove or fireplace	<u>NA</u>	NA
New furniture / upholstery	<u>NA (Fireplace not used)</u>	NA
New carpeting / flooring	<u>↓</u>	<u>NA</u>
Hobbies - glues, paints, etc.	<u>↓</u>	NA
		<u>NA</u>

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No (CAR PORT)

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Travis O'Quinn, Jason Volker Phone number: (919) 880 - 3137

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: ESC

Sample locations (floor, room): Dining Table, First Floor

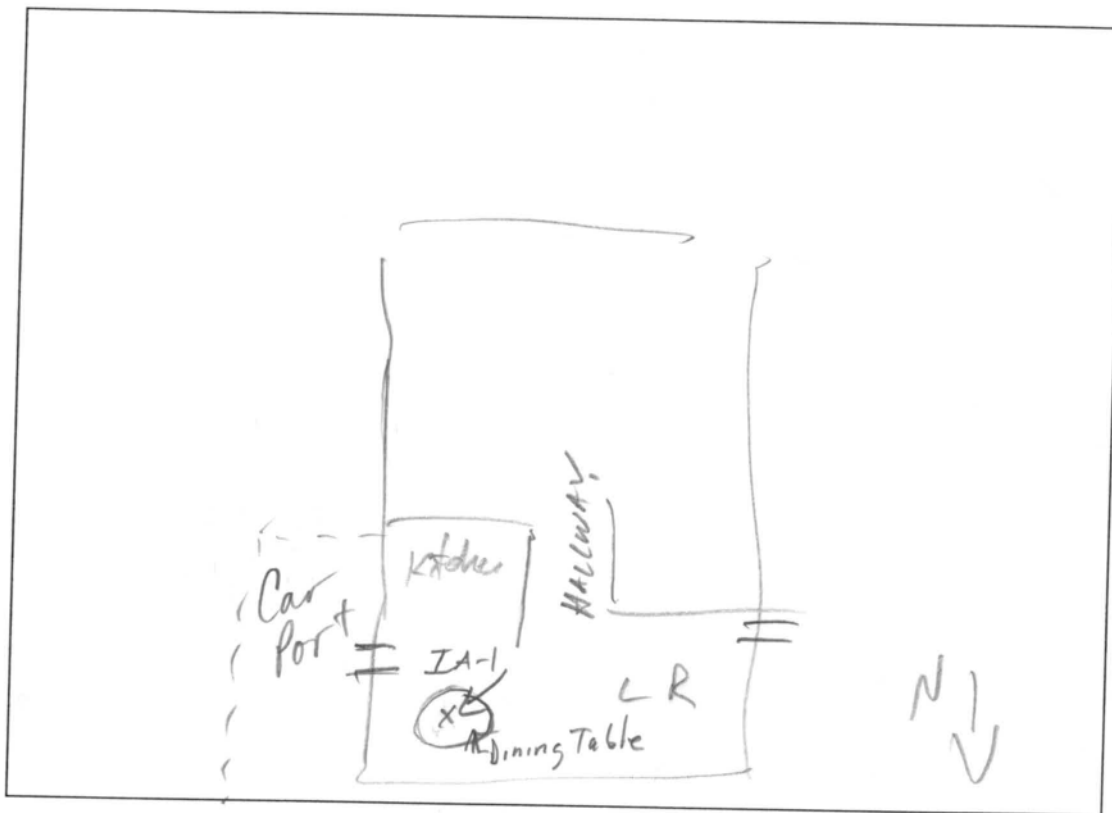
Field ID # IA - 1 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes ☒ No ☐

Describe the general weather conditions: Sunny, Hot.

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

DWM INDOOR AIR BUILDING SURVEY
and SAMPLING FORM

Site Name: Chemical and Solvents Inc.

DSCAID#: _____

Preparer's name: Jim Peew / Jason Volker

Date: 6/16/16 / 6-20-16 / 6-21-16

Preparer's affiliation: SIME

Phone #: 919-890-3137

Part I - Occupants

Building Address: 2837 CAMDEN

Property Contact: (b) (6)

Owner / Renter / other: _____

Contact's Phone: home (b) (6) work () cell ()

of Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults 2

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: SMALL SINGLE WOOD-FRAME HOUSE (648 ft²) Year constructed: 1955

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors below grade: 0 (full basement / crawl space / slab on grade)

Number of floors at or above grade: 1 (Above Ground)

Depth of basement below grade surface: _____ ft. Basement size: _____ ft²

Basement floor construction: concrete / dirt / floating / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify) Brick

Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No

Type of heating system (circle all that apply):

hot air circulation

hot air radiation

wood

steam radiation

heat pump

hot water radiation

kerosene heater

electric baseboard

other (specify): _____

Type of ventilation system (circle all that apply):

central air conditioning

mechanical fans

bathroom ventilation fans

individual air conditioning units

kitchen range hood fan

outside air intake

other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes / No

Is there a whole house fan?

Yes / No

Septic system?

Yes / Yes (but not used) / No

Irrigation/private well?

Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. HOLDEN RD.

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans	<u>Back yard</u>	
Gas-powered equipment	<u>"</u>	
Kerosene storage cans	<u>NA</u>	
Paints / thinners / strippers	<u>Indoor</u>	<u>No</u>
Cleaning solvents	<u>Indoor</u>	<u>No</u>
Oven cleaners	<u>Indoor</u>	<u>No</u>
Carpet / upholstery cleaners	<u>Indoor</u>	<u>No</u>
Other house cleaning products	<u>Indoor</u>	<u>No</u>
Moth balls	<u>NA</u>	
Polishes / waxes	<u>Indoor</u>	
Insecticides	<u>yard</u>	
Furniture / floor polish	<u>Indoor</u>	<u>No</u>
Nail polish / polish remover	<u>Indoor</u>	<u>No</u>
Hairspray	<u>Indoor</u>	<u>No</u>
Cologne / perfume	<u>Indoor</u>	<u>No</u>
Air fresheners	<u>Indoor</u>	<u>No</u>
Fuel tank (inside building)	<u>NA</u>	NA
Wood stove or fireplace	<u>Indoor</u>	NA
New furniture / upholstery	<u>Indoor</u>	
New carpeting / flooring	<u>Indoor</u>	NA
Hobbies - glues, paints, etc.	<u>Indoor</u>	

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? Daily

Last time someone smoked in the building? currently hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? 2 weeks ago - flea killer - sprayed yard.

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Travis O'Quinn, Jason Volker Phone number: (919) 880 - 3137

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawlspace

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: ESC

Sample locations (floor, room):

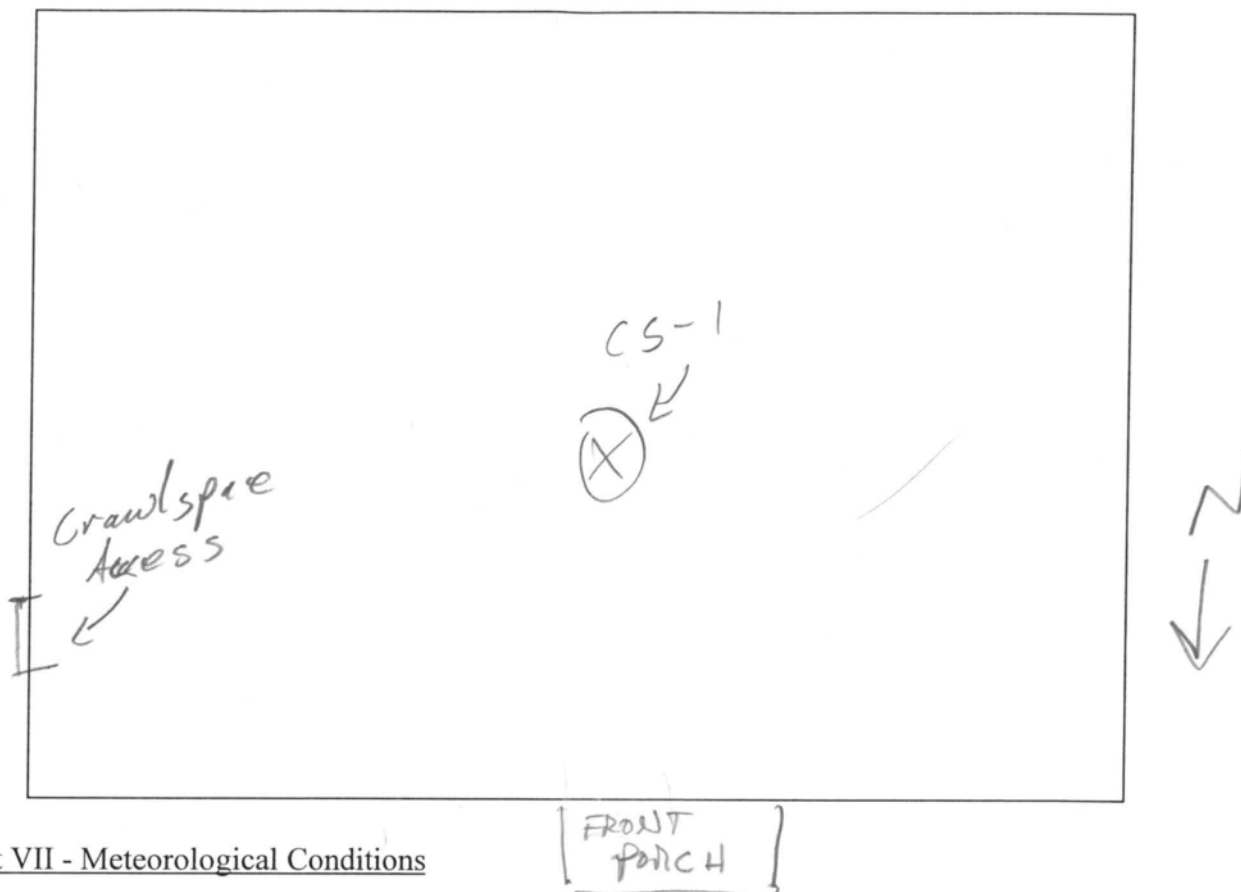
Field ID # CS - 1 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No currently smoking inside.

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Sunny, Hot

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Crawl space was filled with variety of items, electrical power tools, propane tanks, hand tools, old carpet, filled trash bag, closed plastic storage boxes.

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

DWM INDOOR AIR BUILDING SURVEY
and SAMPLING FORM

Site Name: Chemical and Solvents Inc. DSCAID#: _____
Preparer's name: Jim PEELE / Jason Volker Date: 6-16-16 / 6-20-16
Preparer's affiliation: S3ME Phone #: 919-880-3137

Part I - Occupants

Building Address: 2835 CAMDEN ST
Property Contact: (b) (6) Owner / Renter / other: _____
Contact's Phone: home (b) (6) work () cell ()
of Building occupants: Children under age 13 1 Children age 13-18 1 Adults 2

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial
Describe building: 1,200 ft², Wood Framed, 3BR, 2BA
SINGLE STORY, SMALL HOME Year constructed: 2008
Sensitive population: day care / nursing home / hospital / school / other (specify): _____
Number of floors below grade: 0 (full basement / crawl space / slab on grade)
Number of floors at or above grade: 2
Depth of basement below grade surface: _____ ft. Basement size: _____ ft²
Basement floor construction: concrete / dirt / floating / stone / other (specify): _____
Foundation walls: poured concrete / cinder blocks / stone / other (specify) Brick
Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No
Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): Electric
Type of ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____
Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene
Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No

Is there a whole house fan?

Yes / No

Septic system?

Yes / Yes (but not used) / No

Irrigation/private well?

Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. Holden Rd.

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans	<u>Outside</u>	
Gas-powered equipment	<u>"</u>	
Kerosene storage cans	<u>NA</u>	
Paints / thinners / strippers	<u>NA</u>	
Cleaning solvents	<u>closet</u>	<u>No</u>
Oven cleaners	<u>"</u>	<u>↓</u>
Carpet / upholstery cleaners	<u>"</u>	<u>↓</u>
Other house cleaning products	<u>"</u>	<u>↓</u>
Moth balls	<u>NA</u>	
Polishes / waxes	<u>closet</u>	<u>No</u>
Insecticides	<u>closet</u>	<u>↓</u>
Furniture / floor polish	<u>"</u>	<u>↓</u>
Nail polish / polish remover	<u>Upstairs BR</u>	<u>No</u>
Hairspray	<u>"</u>	<u>↓</u>
Cologne / perfume	<u>"</u>	<u>↓</u>
Air fresheners	<u>Living Room</u>	<u>No, not in use.</u>
Fuel tank (inside building)	<u>No</u>	<u>NA</u>
Wood stove or fireplace	<u>No</u>	<u>NA</u>
New furniture / upholstery	<u>No</u>	<u>NA</u>
New carpeting / flooring	<u>No</u>	<u>NA</u>
Hobbies - glues, paints, etc.	<u>No</u>	<u>NA</u>

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Travis O'Quinn, Tessa Walker Phone number: (919) 880 - 3137

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: ESC

Sample locations (floor, room): Living Room, First Floor

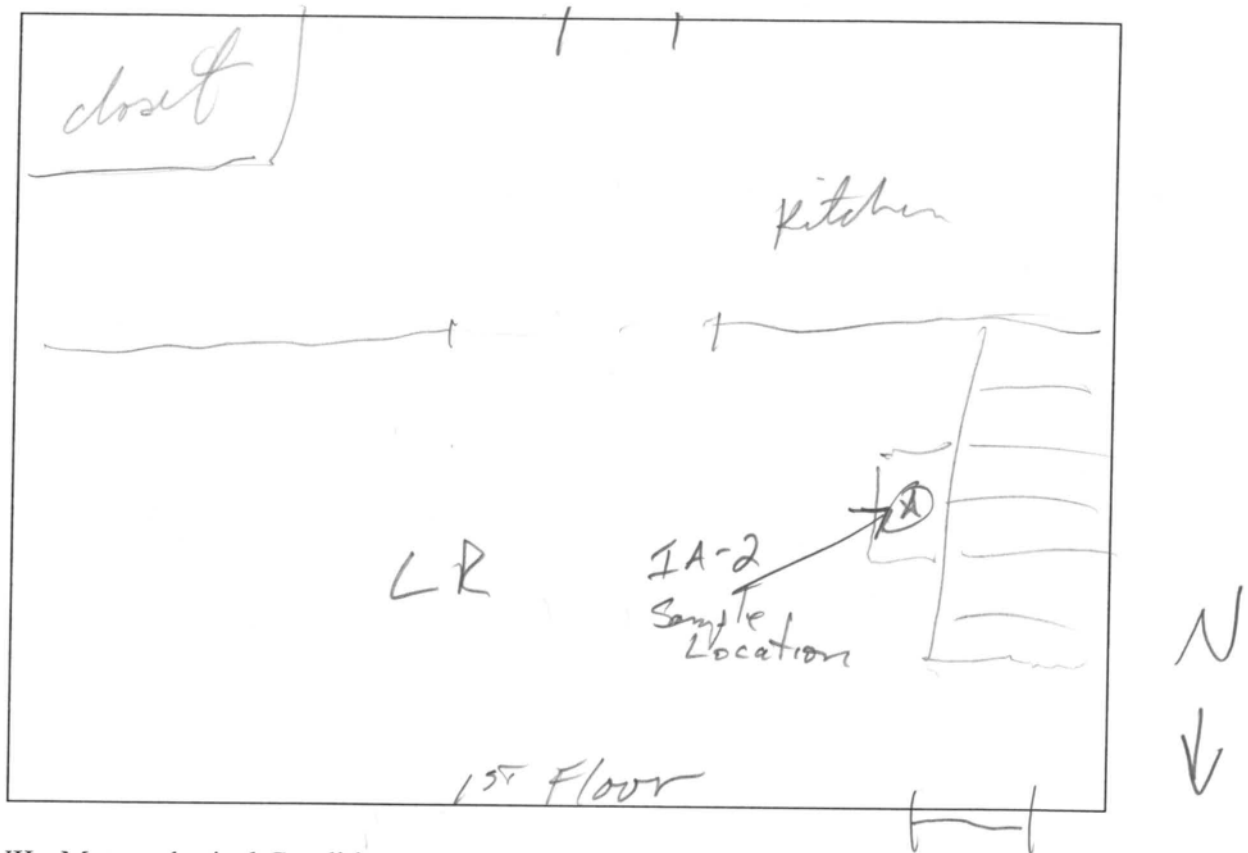
Field ID # 1A - 2 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Sunny, Hot

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

DWM INDOOR AIR BUILDING SURVEY
and SAMPLING FORM

Site Name: Chemical and Solvent Inc. DSCAID#: _____
Preparer's name: Jim PEELE / Jason Volker Date: 6/16/16 / 6-20-16
Preparer's affiliation: same Phone #: 919-880-3137

Part I - Occupants

Building Address: 2836 CAMBORNE
Property Contact: (b) (6) Owner / Renter / other: _____
Contact's Phone: home (b) (6) work () cell ()
of Building occupants: Children under age 13 UKN Children age 13-18 UKN Adults 2+

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial
Describe building: 1 STORY DUPLEX, Wood-frame, 1,200ft² Year constructed: 1952
Sensitive population: day care / nursing home / hospital / school / other (specify): _____
Number of floors below grade: 0 (full basement / crawl space / slab on grade)
Number of floors at or above grade: 1 (Above ground)
Depth of basement below grade surface: _____ ft. Basement size: _____ ft²
Basement floor construction: concrete / dirt / floating / stone / other (specify): _____
Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____
Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No

Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____
Type of ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): None

Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes / No

NONE
HOME
6/16/16

(2 adults in
Unit B)

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No

Irrigation/private well? Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. Holden Rd

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Trevi O'Quinn, Jason Volker Phone number: (919) 880-3137

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawl space

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: ESC

Sample locations (floor, room):

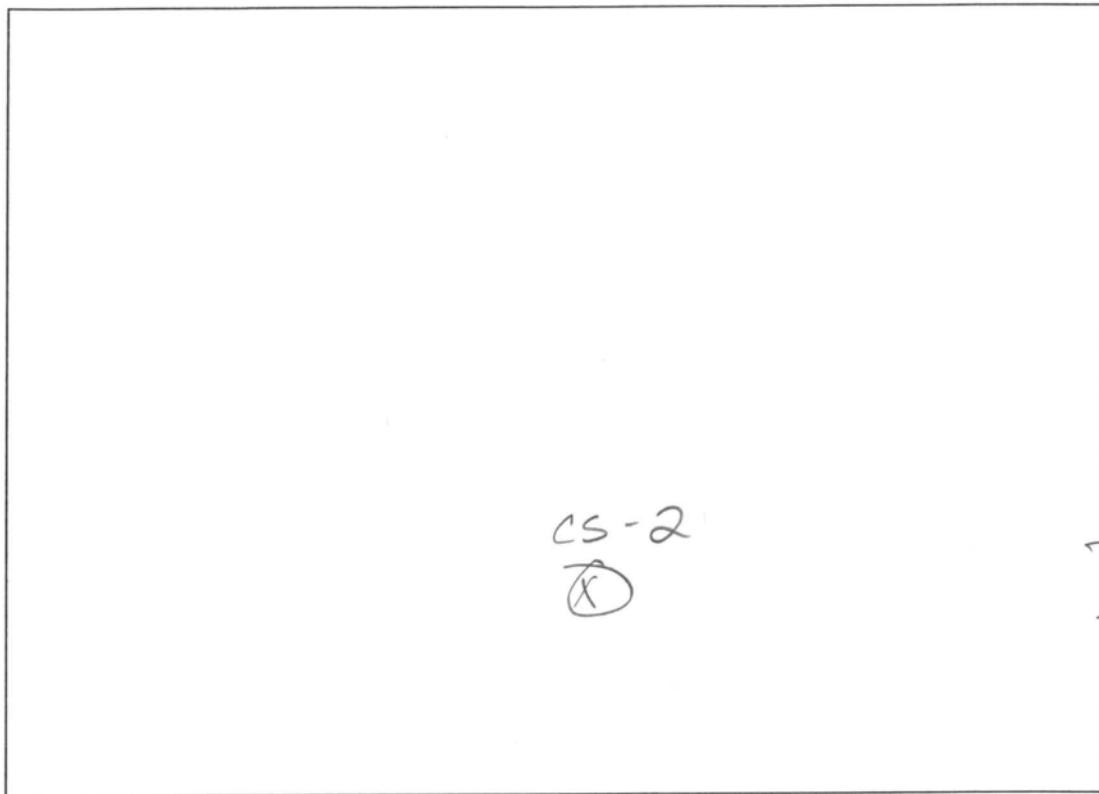
Field ID # CS - 2 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



CS-2
(X)

Crawlspace
Access

N

↑
N

Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Sunny, Hot

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

(Unit 'B' only)
Spoke with tenant prior while on-site 6-21-14.
New renter with limited knowledge. Indicated bug spray
had not been used within 48 hours (Unit B).

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

DWM INDOOR AIR BUILDING SURVEY
and SAMPLING FORM

Site Name: Chemical and Solvents Inc. DSCAID#: _____
Preparer's name: Jim PERLE / Jason Volker Date: 6/16/16 / 6-20-16
Preparer's affiliation: S3, MC Phone #: 919-880-3137

Part I - Occupants

Building Address: 2834 CAMBORNE
Property Contact: (b) (6) Owner / Renter / other: Renter
Contact's Phone: home () _____ work () _____ cell () _____
of Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults 1+

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial
Describe building: DUPLEX, wood-framed, 1200 ft² Year constructed: 1952
Sensitive population: day care / nursing home / hospital / school / other (specify): _____
Number of floors below grade: 0 (full basement / crawl space / slab on grade)
Number of floors at or above grade: 1 Above ground
Depth of basement below grade surface: _____ ft. Basement size: _____ ft²
Basement floor construction: concrete / dirt / floating / stone / other (specify): _____
Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____
Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No
Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____
Type of ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____
Type of fuel utilized (circle all that apply):
Natural gas / electric / fuel oil / wood / coal / solar / kerosene
Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No

Is there a whole house fan? Yes / ~~No~~

Septic system? Yes / Yes (but not used) / ~~No~~

Irrigation/private well? Yes / Yes (but not used) / ~~No~~

Type of ground cover outside of building: grass concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / ~~No~~ active / passive

Sub-slab vapor/moisture barrier in place? Yes / ~~No~~

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. Holden Rd

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment	<u>Lawn mower outside</u>	
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)	<u>NA</u>	NA
Wood stove or fireplace	<u>NA</u>	NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

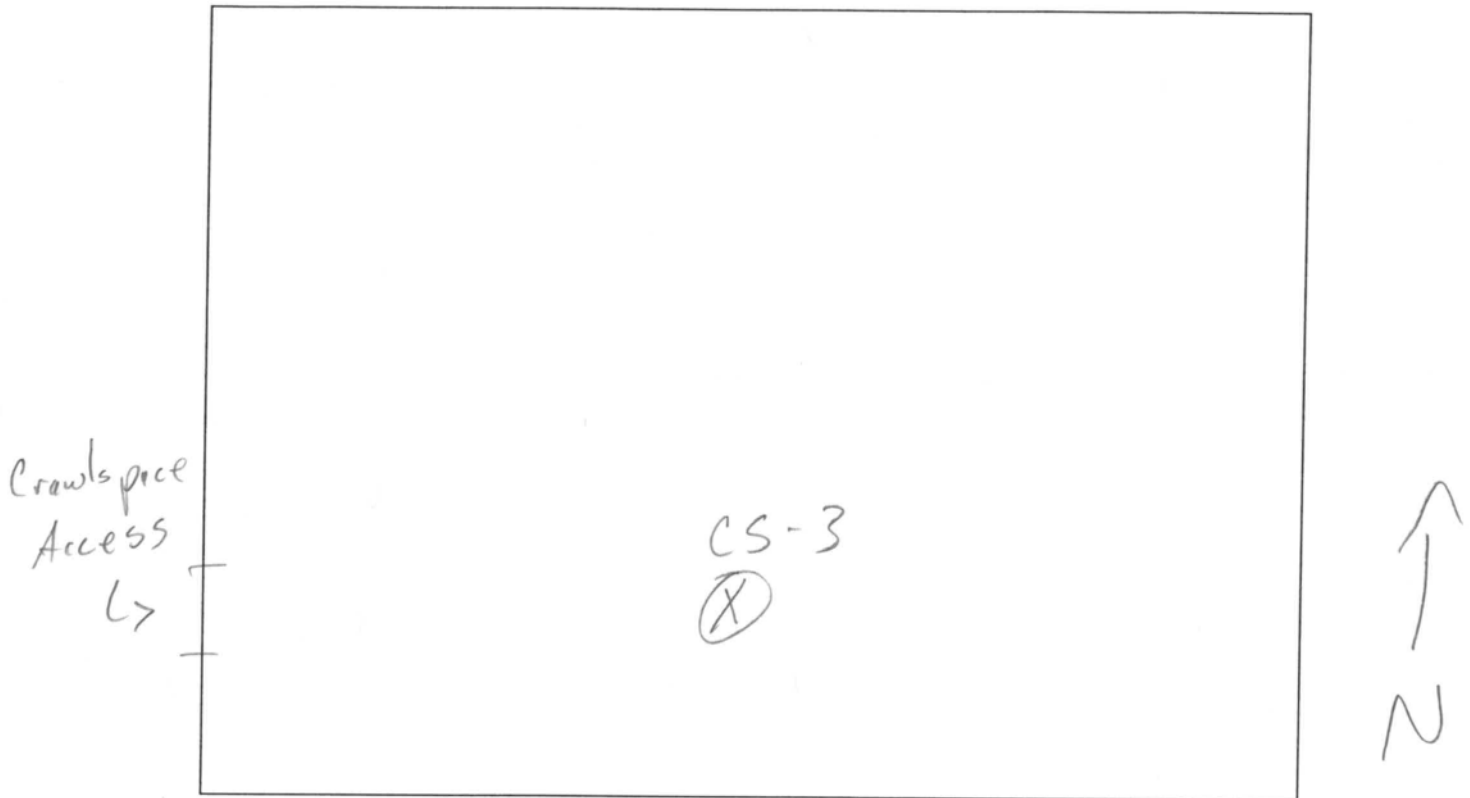
Part V – Miscellaneous Items

- Based on limited info from Antonio (tenant)
Do any occupants of the building smoke? Yes / No How often? daily *(one unit of duplex)*
Last time someone smoked in the building? 1/1/11 hours / days ago
Does the building have an attached garage directly connected to living space? Yes / No
If so, is a car usually parked in the garage? Yes / No
Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No
Do the occupants of the building have their clothes dry cleaned? Yes / No
If yes, how often? weekly / monthly / 3-4 times a year
Do any of the occupants use solvents in work? Yes / No
If yes, what types of solvents are used? _____
If yes, are their clothes washed at work? Yes / No
Have any pesticides/herbicides been applied around the building or in the yard? Yes / No
If so, when and which chemicals? _____
Has there ever been a fire in the building? Yes / No If yes, when? _____
Has painting or staining been done in the building in the last 6 months? Yes / No
If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Travis O'Quinn, Jason Volker Phone number: (919) 880-3137
Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawl space
Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____
Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: ESC
Sample locations (floor, room):
Field ID # C5 - 3 Field ID # _____ - _____
Field ID # _____ - _____ Field ID # _____ - _____
Were "Instructions for Occupants" followed? Yes / No
If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Sunny, Hot

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Direct contact with renters not achieved prior to sampling event. One renter (Antonio) was interviewed on 6-21-16. He spoke very limited English.

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

- no direct contact with tenants was achieved -

DWM INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Site Name: Chemical and Solvents Inc. DSCAID#: _____

Preparer's name: Jim Peble, Jason Volker

Date: 6/16/16 / 6-20-16

Preparer's affiliation: SJME

Phone #: 919-880-3137

Part I - Occupants

Building Address: 2832 CAMDEN

Property Contact: (b) (6) Owner / Renter / other: _____

Contact's Phone: home (b) (6) work () cell ()

of Building occupants: Children under age 13 _____ Children age 13-18 _____ Adults _____

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial

Describe building: DUPLEX, WOOD FRAMED, 1,200 ft² Year constructed: 1952

Sensitive population: day care / nursing home / hospital / school / other (specify): _____

Number of floors below grade: 0 (full basement crawl space / slab on grade)

Number of floors at or above grade: 1 (Above ground)

Depth of basement below grade surface: _____ ft. Basement size: _____ ft²

Basement floor construction: concrete / dirt / floating / stone / other (specify): _____

Foundation walls: poured concrete / cinder blocks / stone / other (specify): _____

Basement sump present? Yes / No Sump pump? Yes / No Water in sump? Yes / No

Type of heating system (circle all that apply):

hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): _____

Type of ventilation system (circle all that apply):

central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify): _____

Type of fuel utilized (circle all that apply):

Natural gas / electric / fuel oil / wood / coal / solar / kerosene

Are the basement walls or floor sealed with waterproof paint or epoxy coatings?

Yes / No

NO-ONE
HOME

Is there a whole house fan?

Yes / No

Septic system?

Yes / Yes (but not used) / No

Irrigation/private well?

Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No

Type of barrier: _____

Part III - Outside Contaminant Sources

Other stationary sources nearby (gas stations, emission stacks, etc.): _____

Heavy vehicular traffic nearby (or other mobile sources): S. MOLDEN RD

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Travis O'Quinn, Jason Volker Phone number: (919) 880 - 3137

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawl space

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 TO-17 / other: _____ Cert. Laboratory: ESC

Sample locations (floor, room):

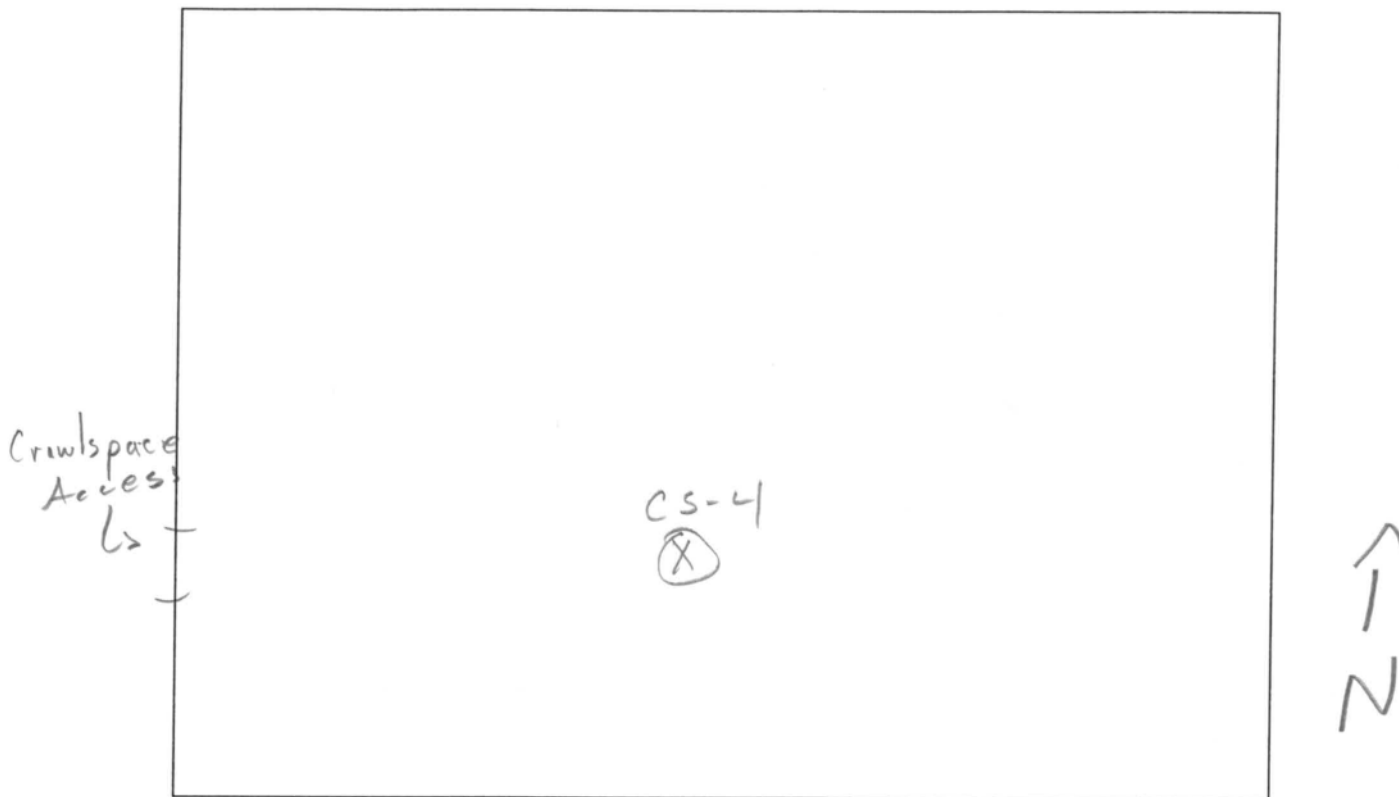
Field ID # CS - 4 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: Sunny, Hot

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

no direct contact with tenants was ever made
(achieved)

(Adapted from the NJDEP Vapor Intrusion Guidance, October 2005)

Attachment V – Photograph Log

1			Date: 6/21/16
	Photographer: JV/TO		
	Location / Orientation	2841 Camborne Street	
	Remarks	Location of indoor air sample IA-1.	

2			Date: 6/21/16
	Photographer: JV/TO		
	Location / Orientation	2841 Camborne Street	
	Remarks	Location of indoor air sample IA-1.	

3		Date: 6/21/16
	Photographer: JV/TO	
	Location / Orientation	2835 Camborne Street
	Remarks	Location of indoor air sample IA-2.

4		Date: 6/21/16
	Photographer: JV/TO	
	Location / Orientation	2835 Camborne Street
	Remarks	Location of indoor air sample IA-2.

5			Date: 6/21/16
			Photographer: JV/TO
Location / Orientation		2837 Camborne Street	
Remarks		Location of crawl space sample CS-1.	

6			Date: 6/21/16
			Photographer: JV/TO
Location / Orientation		2837 Camborne Street	
Remarks		Entrance to crawl space.	

<p>7</p>	<p>Location / Orientation</p>	<p>2837 Camborne Street</p>	<p>Date: 6/21/16</p>	<p>Photographer: JV/TO</p>
	<p>Remarks</p>	<p>Some contents of crawl space.</p>		

<p>8</p>	<p>Location / Orientation</p>	<p>2837 Camborne Street</p>	<p>Date: 6/21/16</p>	<p>Photographer: JV/TO</p>
	<p>Remarks</p>	<p>Location of crawl space sample CS-1 and duplicate sample CS-DUP.</p>		

9	Location / Orientation	2837 Camborne Street	Photographer: JV/TO	Date: 6/21/16
	Remarks	Location of background sample AMBIENT in backyard.		



10	Location / Orientation	2836 Camborne Street (Duplex, Units A and B)	Photographer: JV/TO	Date: 6/21/16
	Remarks	Location of crawl space sample CS-2.		



11			Date: 6/21/16
	Photographer: JV/TO		
Location / Orientation		2836 Camborne Street (Duplex, Units A and B)	
Remarks		The crawl space was accessed on the east side of the structure.	

12			Date: 6/21/16
	Photographer: JV/TO		
Location / Orientation		2836 Camborne Street (Duplex, Units A and B)	
Remarks		Location of crawl space sample CS-2.	

13			Date: 6/21/16
			Photographer: JV/TO
	Location / Orientation	2834 Camborne Street (Duplex, Units A and B)	
	Remarks	Location of crawl space sample CS-3.	

14			Date: 6/21/16
			Photographer: JV/TO
	Location / Orientation	2834 Camborne Street (Duplex, Units A and B)	
	Remarks	The crawl space was accessed on the west side of the structure.	

15			Date: 6/21/16
	Photographer: JV/TO		
	Location / Orientation	2834 Camborne Street (Duplex, Units A and B)	
	Remarks	Location of crawl space sample CS-3.	

16			Date: 6/21/16
	Photographer: JV/TO		
	Location / Orientation	2832 Camborne Street (Duplex, Units A and B)	
	Remarks	Location of crawl space sample CS-4.	

17	Location / Orientation	2832 Camborne Street (Duplex, Units A and B)	Photographer: JV/TO	Date: 6/21/16
	Remarks	The crawl space was accessed on the west side of the structure.		



18	Location / Orientation	2832 Camborne Street (Duplex, Units A and B)	Photographer: JV/TO	Date: 6/21/16
	Remarks	Contents of crawlspace. Sample CS-4 was collected from near the center of the structure.		



Attachment VI – Field Notes

DAILY FIELD REPORT



Field Personnel: Travis O + Jason V.

Project Name: Chemical + Solvents Site

Project Number: 4305-15-215

Date: 6/20/16

Page 1
of Pages 1

ACTIVITIES PERFORMED

- 900 TLO + JV onsite at Chemical + Solvents site in Greensboro, NC.
- 920 Contacted the property owner at 2841 Camborne street. Scott Mason gave us writing access agreement. Setup 1st summa can w/ 24hr regulator on kitchen table.
- 927 started canister IA-1
- 0950 Accessed 2835 Camborne Street. Evalyn Najjarrete gave us access to setup canister. Setup canister in living room on a table. 0953 started canister IA-2
- 1010 offsite to GSD office to get additional equipment
- 1045 back onsite
- 1050 putting equipment together
- 1123 setup ambient canister at 2837 Camborne Street
- 1140 Started Canister - CS-1 + bag at 2837 Camborne Street
- 1216 started Canister CS-2 at 2836 Camborne Street
- 1230 started Canister CS-3 at 2834 Camborne Street
- 1241 started Canister CS-4 at 2832 Camborne Street
- 1300 S&ME offsite

On-Site Time

Field Personnel Signature:

Date: 6/20/16

VOC SAMPLING FIELD FORM



PS. 1/2

Project Name/Project No.:	Chemical + Solvents Site / 4305-15-215
Location:	Camborne Street, Greensboro, NC
Date:	6/20/16, End Date: 6/21/16 <i>g/v 10-16</i>
Weather:	Sunny 80's
S&ME Personnel Present:	Travis O. + Jason V
Additional Persons Present:	

Sample Type (e.g. indoor, sub-slab, soil gas)	Crawl space	Crawl space	Crawl space	Crawl space
Sample Information				
Sample ID	CS-Dup (CS-1)	CS-2	CS-3	CS-4
Canister ID	521 SIM	78 SIM	1380 SIM	12 SIM
Regulator ID	604	563	601	96
Canister Volume (L)	6L	6L	6L	6L
Flow rate (L/min or L/hr)	0.25 L/hr	0.25 L/hr	0.25 L/hr	0.25 L/hr
Ambient Temp (°F)	82 / 85°F	84°	84° / 85°F	84° / 86°F
Barometric P (in. Hg)	30.28 / 29.13	30.25	30.25" / 29.13	30.25 / 29.13
Leak Test				
He Concentration	NA	NA	NA	NA
He Detected (y or n)	NA	NA	NA	NA
Sample Collection				
Start Time	1140	1216	1230	1241
Initial Vacuum (in Hg)	-29	-29	-29	-29
End Time	1310	1415	1335	1345
Final Vacuum (in Hg)	0	-11	-5	-5
Sampled by	Justin Ahn	Justin Ahn	Justin Ahn	Justin Ahn
Sampler Signature	<i>Justin Ahn</i>	<i>Justin Ahn</i>	<i>Justin Ahn</i>	<i>Justin Ahn</i>

Notes:

✱ Meter CS-2 did not fall above -11 in Hg, Meter showed no signs of movement during entire day.

VOC SAMPLING FIELD FORM



pg. 2/2

Project Name/Project No.:	Chemical & Solvents Site / 4305-15-215
Location:	Camden Street, Greensboro, NC
Date:	6/20/16, End Date: 6/21/16 JH
Weather:	Sunny 80's
S&ME Personnel Present:	Travis O. & Jason V
Additional Persons Present:	

Sample Type (e.g. indoor, sub-slab, soil gas)	Indoor	Indoor	Ambient	Crawl space
Sample Information				
Sample ID	IA-1	IA-2	Ambient	CS-1
Canister ID	512 SIM	716 SIM	699 SIM	1715 SIM
Regulator ID	264	276	518	560
Canister Volume (L)	6L	6L	6L	6L
Flow rate (L/min or L/hr)	0.25 L/hr	0.25 L/hr	0.25 L/hr	0.25 L/hr
Ambient Temp (°F)	75° / 80°F	75° / 80°F	82° / 85°F	82° / 85°F
Barometric P (in. Hg)	30.31" / 29.15	30.31 / 29.15	30.28" / 29.13	30.28" / 29.13
Leak Test				
He Concentration	NA	NA	NA	NA
He Detected (y or n)	NA	NA	NA	NA
Sample Collection				
Start Time	0937	0953	1123	1140
Initial Vacuum (in Hg)	>30	>30	-29.5	>30
End Time	0820	0835	1305	1310
Final Vacuum (in Hg)	>5	>5 (0)	-5	-5
Sampled by	Justin Ahn	Justin Ahn	Justin Ahn	Justin Ahn
Sampler Signature	Justin Ahn	Justin Ahn	Justin Ahn	Justin Ahn
Notes:				

Attachment VII – Laboratory Report and Chain of Custody

S&ME Inc. - Raleigh NC

Sample Delivery Group: L843146
Samples Received: 06/23/2016
Project Number:
Description: Chemical and Solvents, Inc.

Report To: Jason Volker
3201 Spring Forest Road
Raleigh, NC 27616

Entire Report Reviewed By:



Tom Mellette
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1
²Tc: Table of Contents	2
³Ss: Sample Summary	3
⁴Cn: Case Narrative	5
⁵Sr: Sample Results	6
IA-1 L843146-01	6
IA-2 L843146-02	7
AMBIENT L843146-03	8
CS-1 L843146-04	9
CS-2 L843146-05	10
CS-3 L843146-06	11
CS-4 L843146-07	12
CS-DUP L843146-08	13
⁶Qc: Quality Control Summary	14
Volatile Organic Compounds (MS) by Method TO-15	14
⁷Gl: Glossary of Terms	16
⁸Al: Accreditations & Locations	17
⁹Sc: Chain of Custody	18



SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



IA-1 L843146-01 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 08:20	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 17:01	06/23/16 17:01	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 19:01	06/24/16 19:01	MBF

¹ Cp

² Tc

³ Ss

IA-2 L843146-02 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 08:35	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 17:42	06/23/16 17:42	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 19:51	06/24/16 19:51	MBF

⁴ Cn

⁵ Sr

⁶ Qc

AMBIENT L843146-03 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 13 05	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 18:27	06/23/16 18:27	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 20:44	06/24/16 20:44	MBF

⁷ Gl

⁸ Al

⁹ Sc

CS-1 L843146-04 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 13:10	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 19:09	06/23/16 19:09	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 21:35	06/24/16 21:35	MBF

CS-2 L843146-05 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 14:15	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 20:02	06/23/16 20:02	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 22:27	06/24/16 22:27	MBF

CS-3 L843146-06 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 13:35	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 20:45	06/23/16 20:45	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/24/16 23:17	06/24/16 23:17	MBF

CS-4 L843146-07 Air

			Collected by Justin Ahn	Collected date/time 06/21/16 13:45	Received date/time 06/23/16 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 21:30	06/23/16 21:30	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG882724	20	06/24/16 07:07	06/24/16 07:07	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/25/16 00:10	06/25/16 00:10	MBF



CS-DUP L843146-08 Air

Collected by
Justin AhnCollected date/time
06/21/16 13:10Received date/time
06/23/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG882724	1	06/23/16 22:10	06/23/16 22:10	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG883086	1	06/25/16 00:59	06/25/16 00:59	MBF

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Tom Mellette
Technical Service Representative

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0642	0.255		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.0935	0.635		1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.0389	0.212		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	0.154	0.827		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.7				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG882724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0842	0.334		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.0477	0.324	B	1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	0.0516	0.276		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.8				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		107				WG882724

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0434	0.172		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.0350	0.237	B	1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.0636	0.346		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	0.0245	0.131		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		90.1				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG882724

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 06/21/16 13:10

L843146

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	0.362	1.47		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0575	0.228		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.117	0.792		1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.0539	0.293		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	ND	ND		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		90.4				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG882724

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0796	0.315		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.144	0.978		1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	ND	ND		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	0.0449	0.241		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.4				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		103				WG882724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.809	3.20		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	0.0401	0.159		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.339	2.30		1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.0221	0.120		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	0.325	1.74		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.0				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG882724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	0.223	0.894		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.400	1.59	14.5	57.4		20	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	0.158	0.628		1	WG882724
Tetrachloroethylene	127-18-4	166	0.400	2.72	6.08	41.3		20	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.213	1.16		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.400	2.14	3.75	20.1		20	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.9				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		109				WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		104				WG882724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Resu t ppbv	Resu t ug/m3	Qualifier	Dilution	Batch
1,2-Dichloroethane	107-06-2	99	0.200	0.810	0.356	1.44		1	WG883086
1,1-Dichloroethane	75-34-3	98	0.0200	0.0802	ND	ND		1	WG882724
1,1-Dichloroethene	75-35-4	96 90	0.0200	0.0793	0.0640	0.254		1	WG882724
cis-1,2-Dichloroethene	156-59-2	96 90	0.0200	0.0793	ND	ND		1	WG882724
Tetrachloroethylene	127-18-4	166	0.0200	0.136	0.129	0.873		1	WG882724
1,1,1-Trichloroethane	71-55-6	133	0.0200	0.109	0.0568	0.309		1	WG882724
1,1,2-Trichloroethane	79-00-5	133	0.0300	0.163	ND	ND		1	WG882724
Trichloroethylene	79-01-6	131	0.0200	0.107	ND	ND		1	WG882724
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.2				WG883086
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG882724

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3145559-3 06/23/16 12:57

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1-Dichloroethane	U		0.00505	0.0200
1,1-Dichloroethene	U		0.00521	0.0200
cis-1,2-Dichloroethene	U		0.00770	0.0200
Tetrachloroethylene	0.00518	J	0.00457	0.0200
1,1,1-Trichloroethane	U		0.00552	0.0200
1,1,2-Trichloroethane	U		0.0287	0.0300
Trichloroethylene	U		0.00736	0.0200
(S) 1,4-Bromofluorobenzene	95.7			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3145559-1 06/23/16 10:42 • (LCSD) R3145559-2 06/23/16 11:23

Analyte	Spike Amount ppbv	LCS Resu t ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
1,1-Dichloroethane	0.500	0.501	0.503	100	101	70.0-130			0.280	25
1,1-Dichloroethene	0.500	0.609	0.595	122	119	70.0-130			2.33	25
cis-1,2-Dichloroethene	0.500	0.510	0.503	102	101	70.0-130			1.42	25
Tetrachloroethylene	0.500	0.436	0.433	87.2	86.6	70.0-130			0.730	25
1,1,1-Trichloroethane	0.500	0.470	0.464	94.0	92.9	70.0-130			1.21	25
1,1,2-Trichloroethane	0.500	0.493	0.489	98.5	97.8	70.0-130			0.680	25
Trichloroethylene	0.500	0.481	0.478	96.3	95.5	70.0-130			0.760	25
(S) 1,4-Bromofluorobenzene				101	100	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3145685-3 06/24/16 09:24

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,2-Dichloroethane	U		0.0616	0.200
(S) 1,4-Bromofluorobenzene	90.8			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3145685-1 06/24/16 07:50 • (LCSD) R3145685-2 06/24/16 08:36

Analyte	Spike Amount ppbv	LCS Resu t ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
1,2-Dichloroethane	3 75	4 34	4 32	116	115	70.0-130			0.350	25
(S) 1,4-Bromofluorobenzene				94.3	94.0	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

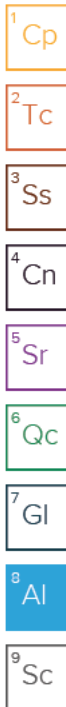
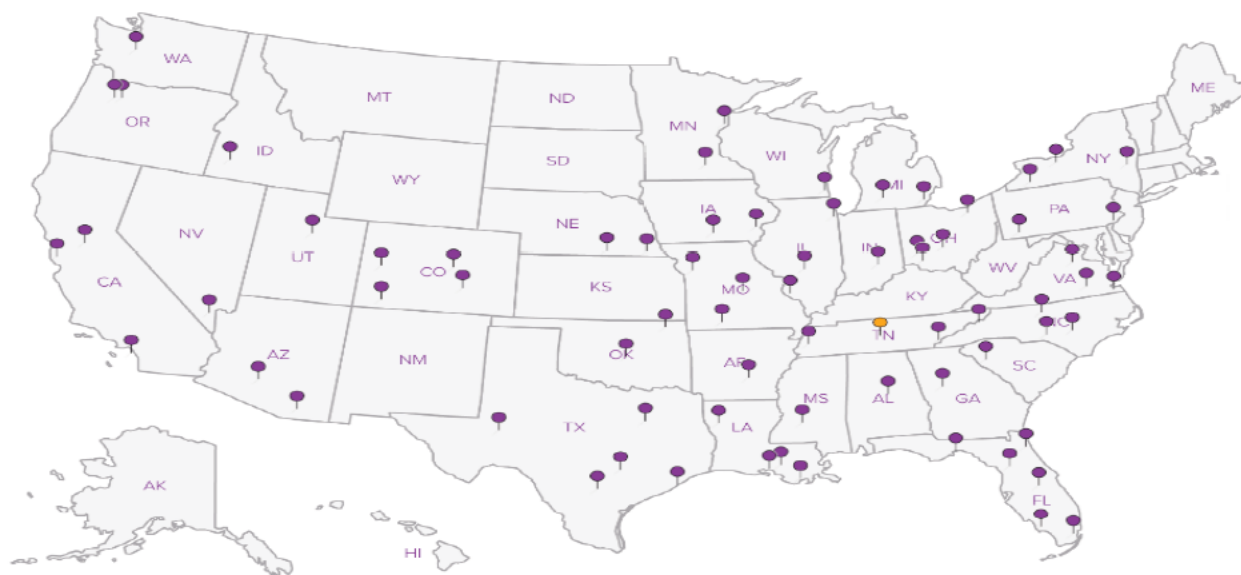
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



S&ME Inc. - Raleigh NC

3201 Spring Forest Road
Raleigh, NC 27616

Billing Information:

Melinda Fletcher
3201 Spring Forest Road
Raleigh, NC 27616

Report to:
Jason Volker

Email To: jvolker@smeinc.com

Project
Description: Chemical and Solvents, Inc.

City/State
Collected:

Phone: 919-872-2660
Fax: 919-790-9827

Client Project #

Lab Project #
SMERLNC-4305-15-215

Collected by (print):
Justin Ahn

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Date Results needed

Same Day200%
Next Day100%
Two Day50%
Three Day25%

Email? ☐ No ☒ Yes

FAX? ☐ No ☐ Yes

Immediately
Packed on Ice N ☒ Y ☐

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
IA-1	Grab	Air		6/21/16	0820	1
IA-2	Grab	Air		6/21/16	0835	1
Ambient	Grab	Air		6/21/16	1305	1
CS-1	Grab	Air		6/21/16	1310	1
CS-2	Grab	Air		6/21/16	1415	1
CS-3	Grab	Air		6/21/16	1335	1
CS-4	Grab	Air		6/21/16	1345	1
CS-DUP	Grab	Air		6/21/16	1310	1
		Air				1

TO-15SIM (Custom) Summa

TO-15 (1,2 DCA only)

Analysis / Container / Preservative

Chain of Custody

Page 1 of 1



YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L # 843146
F202

Acctnum: SMERLNC

Template: T113052

Prelogin: P557301

TSR: 690 - Tom Mellette

PB: 6-10-16

Shipped Via: FedEx Ground

Rem./Contaminant Sample # (lab only)

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: TO-15SIM target list - PCE 1,1DCA 1,2DCA 1,1DCE cis1,2DCE TCE 1,1,1TCA 1,1,2 TCA

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: _____ °C Bottles Received: 8

5x9

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 6/23/16 Time: 0900

COC Seal Intact: ☐ Y ☐ N ☐ NA

pH Checked: NCF: